

NEW HOME OF H. G. FISCHER & CO.

## Representative Units of the Complete Line of H. G. FISCHER & CO.

The complete H. G. FISCHER & CO. line includes many models of Shockproof X-ray apparatus (medical and dental), Short Wave Diathermy Units, Galvanic and Contractile Currents Generators, Ultra Violet Generators, Infra Red Generators, other apparatus, supplies and accessories. H. G. FISCHER & CO. has always maintained the policy of meeting or exceeding the standards of any competing units designed for the same purpose, regardless of price, and pricing all apparatus at the lowest point consistent with quality manufacture.

**S**INCE 1910, H. G. FISCHER & CO. has been one of the largest manufacturers of Shockproof X-ray and Electromedical equipment. Pioneers in the field of X-ray and Electromedical equipment, H. G. FISCHER & CO. is recognized throughout the world today for apparatus of dependable service and great durability. H. G. FISCHER & CO. is the ORIGINAL COMPANY. It has no connection with any other company having a similar name. No H. G. FISCHER & CO. equipment is manufactured outside of the Chicago area.

More than thirty-eight years of experience in engineering, design and construction of X-ray and Electromedical apparatus, together with fine workmanship and materials, are built into all H. G. FISCHER & CO. apparatus. The fact that today over 100,000 physicians, dentists, hospitals, clinics, universities and other medical organizations in the United States and throughout the world use H. G. FISCHER & CO. apparatus reflects its outstanding quality and service.

All H. G. FISCHER & CO. apparatus is serviced and sold through factory-trained representatives who are well qualified to render necessary technical assistance. Our comparatively small overhead expense and factory-trained representation enable us to give purchasers such value per dollar expended as cannot be excelled by any other manufacturer in the field.

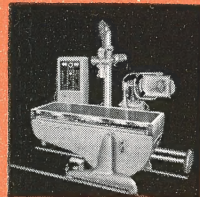
The new home of H. G. FISCHER & CO. is now conveniently located at 9451-91 W. Belmont Ave., Franklin Park, Illinois, a western suburb of Chicago (3200 North and 9400 West, by the Chicago numbering system). Doctors are cordially invited to visit the new H. G. FISCHER & CO. plant, where modern X-ray and Electromedical equipment will be displayed and demonstrated. A visit entails no obligation.

# H. G. FISCHER & CO.

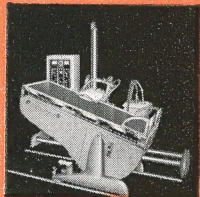
9451-91 W. BELMONT AVE. • FRANKLIN PARK, ILLINOIS

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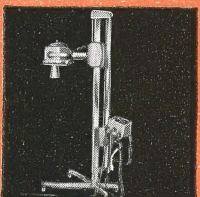
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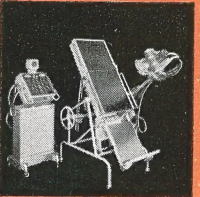
De Luxe Model RF 250  
Milliamperage Shockproof  
X-ray Apparatus.



De Luxe Model RF 100  
Milliamperage Shockproof  
X-ray Apparatus.



Model MP 10 or 20 Mil-  
liamperage Mobile-Port-  
able Shockproof X-ray  
Apparatus.



100 Milliamperage X-ray  
Unit with Urological  
Table.

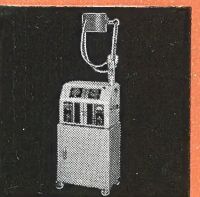
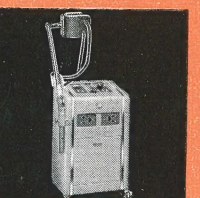
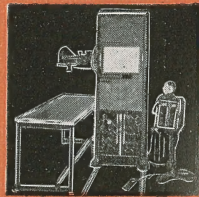


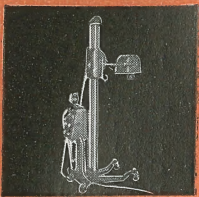
Table Model "200" Short  
Wave Diathermy Unit.



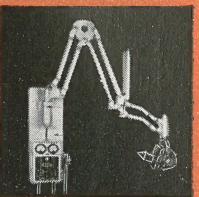
De Luxe Model "400"  
Short Wave Diathermy  
Unit.



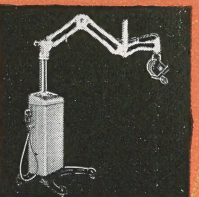
Model TF 30 or 50 Mil-  
liamperage Shockproof  
Fluoroscope with Radio-  
graphic Facilities.



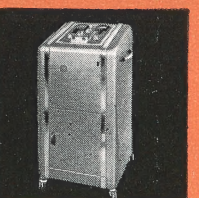
Model TC 30 or 50 Mil-  
liamperage Shockproof  
X-ray Apparatus.



Model "SWDX" Wall-  
Mounted Shockproof  
Dental X-ray.



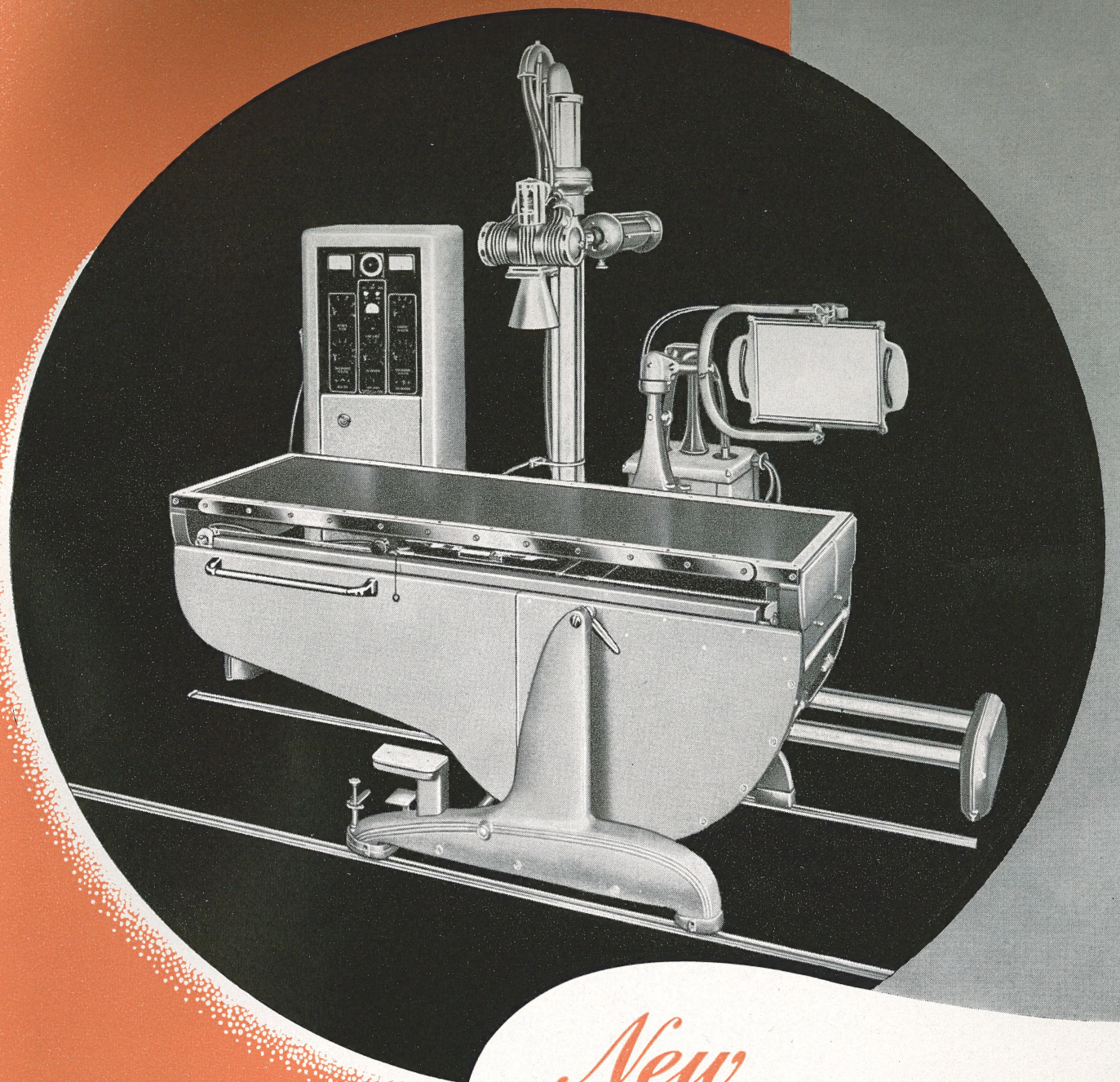
Model "CMDX" Mobile  
Shockproof Dental X-ray.



Model "J" Galvanic and  
Contractile Currents  
Generator.



Model "CK" Ultra Violet  
Generator.



*New*

## DE LUXE MODEL RF

*100 Milliamperage*

## SHOCKPROOF X-RAY APPARATUS

## H. G. FISCHER & CO.

## AUTOMATIC CONTROL • RADIOGRAPHIC-FLUOROSCOPIC COMBINATION

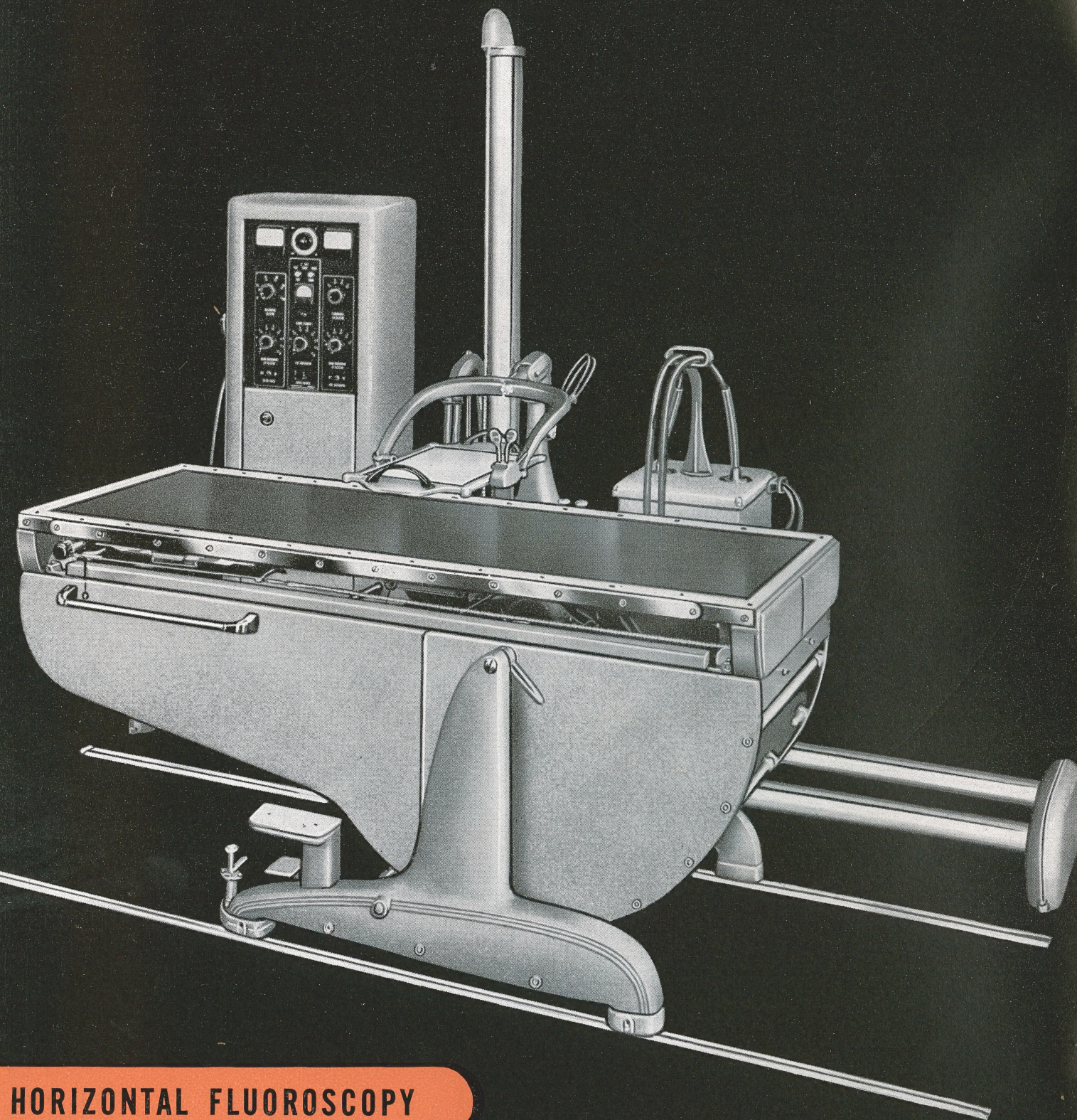


# COMBINATION FLUOROSCOPIC RADIOGRAPHIC X-RAY

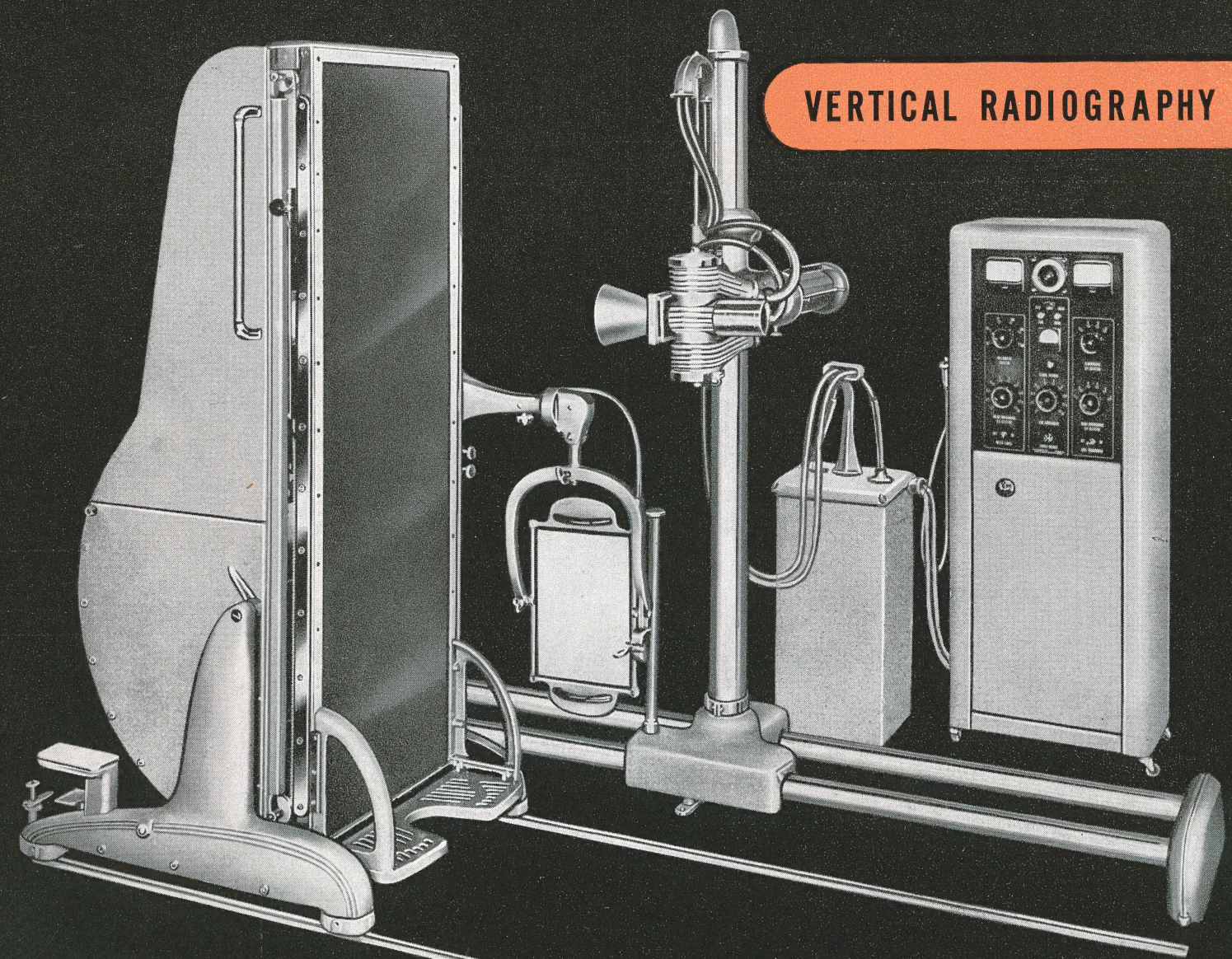
## DISTINCTIVE IN THE FIELD OF RADIOGRAPHY

The new H. G. FISCHER & CO. De Luxe Model RF 100 Milliampere Shockproof Radiographic-Fluoroscopic X-ray Apparatus combines accurate, simple, automatic control of all desired radiographic settings of 5, 10, 25, 75 and 100 Ma., from 30 to 100 PKV. A fully counter-balanced tilting table permits X-ray and fluoroscopic examinations in all positions from Trendelenburg to vertical. The De Luxe Model "RF-100" incor-

porates features of construction backed by more than 38 years' leadership in design, development and manufacture of reliable, high quality X-ray and electromedical equipment by the finest X-ray and electrical engineering craftsmen. The compact, flexible, sturdily constructed De Luxe Model "RF-100" meets the need for a powerful, efficient radiographic-fluoroscopic X-ray unit that can be installed in a small space.

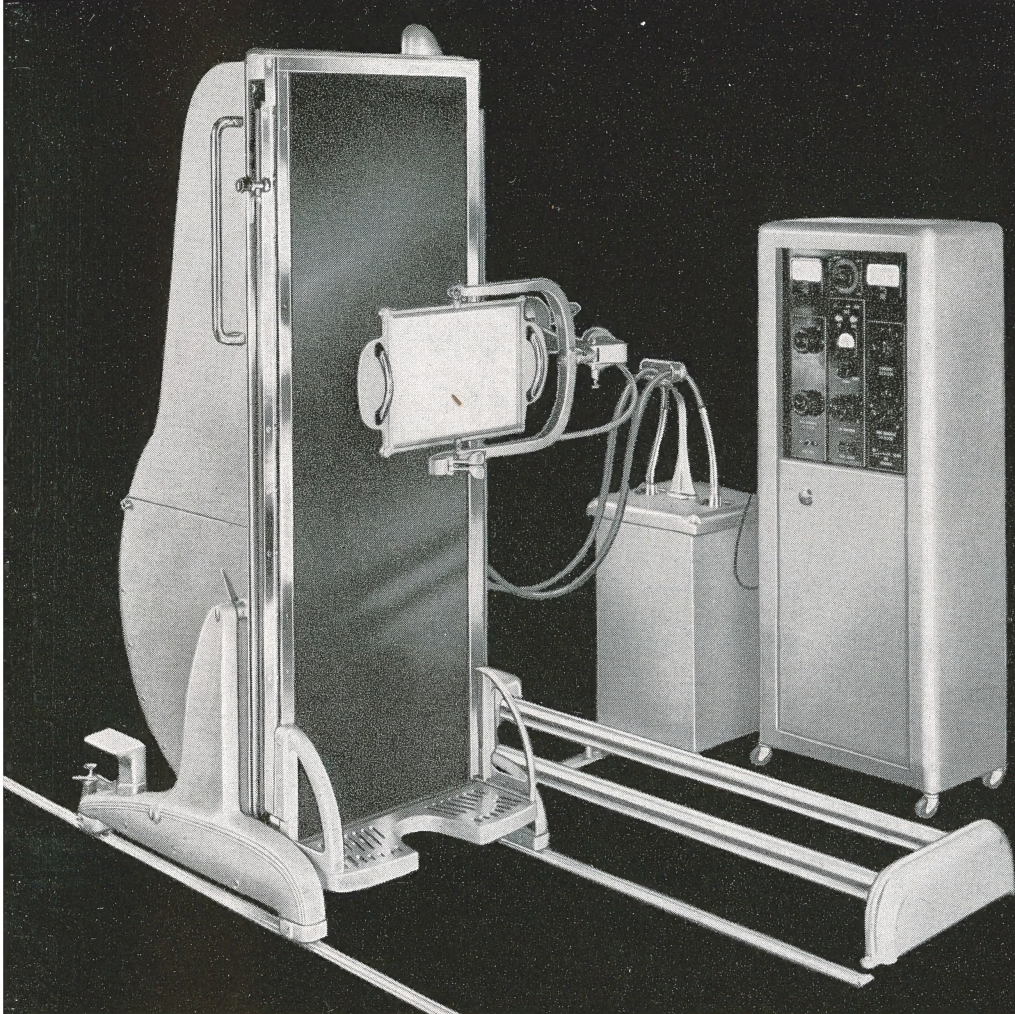


HORIZONTAL FLUOROSCOPY

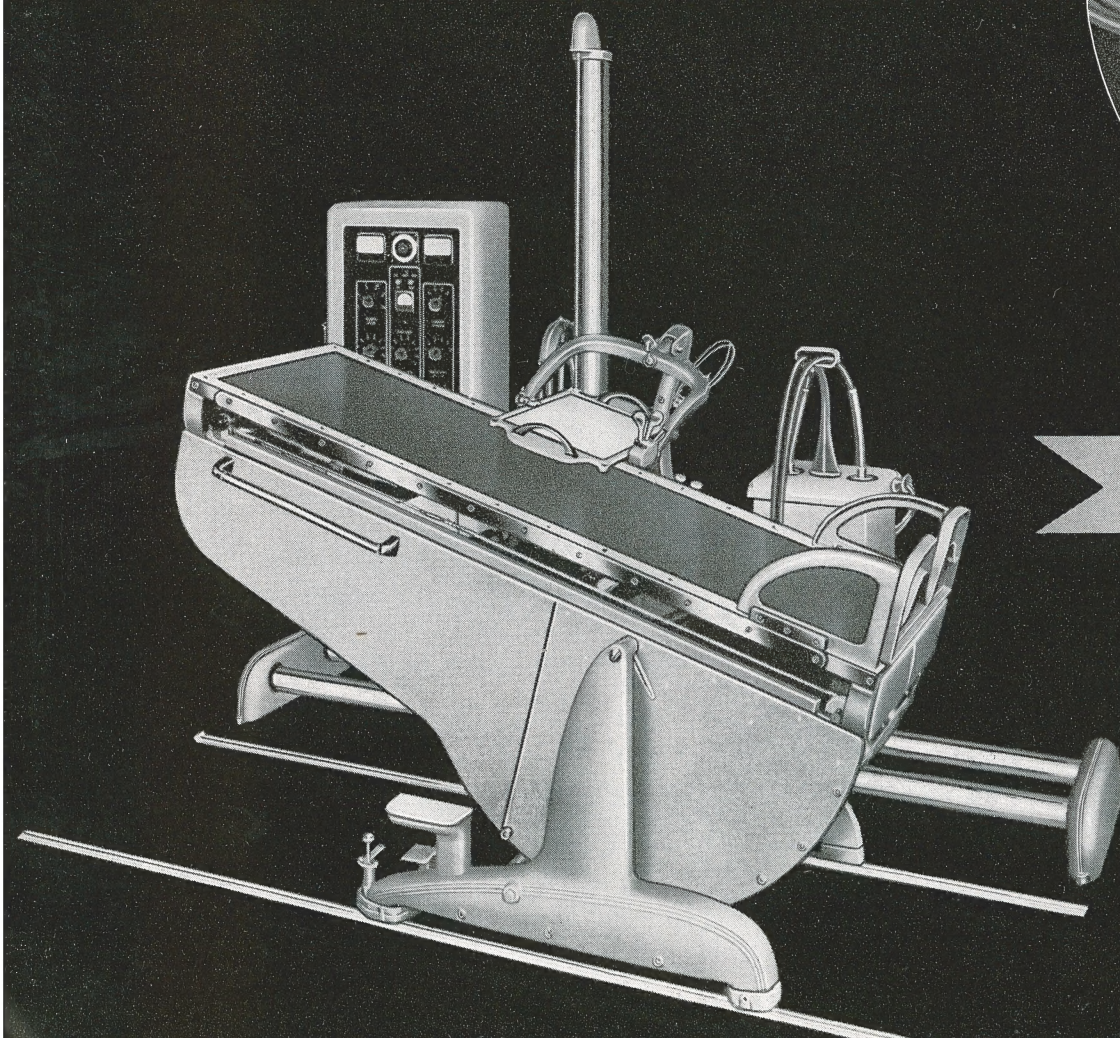
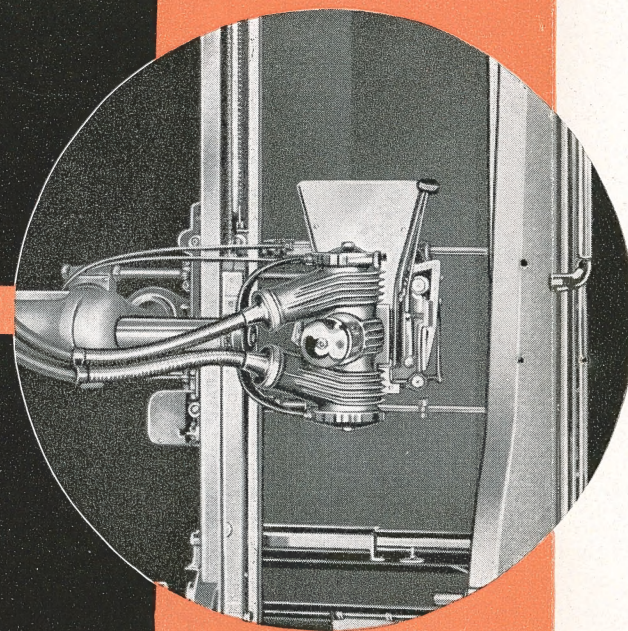


VERTICAL RADIOGRAPHY





## Vertical Fluoroscopy



## Angular Fluoroscopy

Automatic control of all factors of technic permits radiographic and fluoroscopic examinations with the newly designed FISCHER De Luxe Model RF 100 Milliampere Shockproof X-ray apparatus to be accomplished easily, quickly and accurately. Moderately priced, flexible and efficient, the FISCHER De Luxe "RF-100" is a worth while investment and one that can be relied upon to pay dividends of excellent results and operating economy, with long, satisfactory, trouble-free service.

## THE DELUXE "RF-100" TILTING BUCKY RADIOGRAPHIC-FLUOROSCOPIC TABLE

Delicate balance of the table permits finger-tip operation in all positions. Pressure on the guarded foot pedal releases a positive lock which permits use of the table in any one of eight positions, from Trendelenburg to vertical; intermediate stops at every 15°. Rail mounting of the table, permitting a lengthwise travel of 5 ft., enhances its flexibility when installed in small quarters.

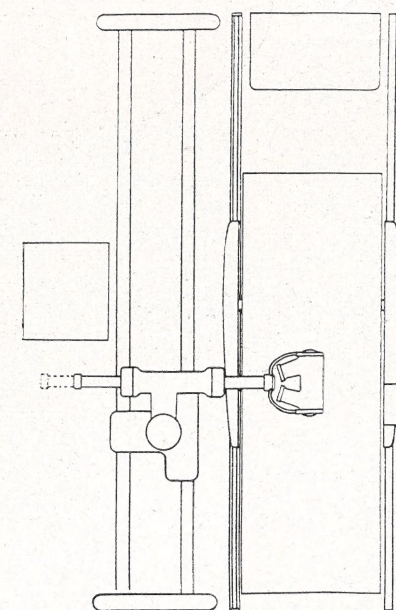
The fluoroscopic screen staging is mounted on a specially designed carriage for smooth operation on both cross and horizontal travel. Large ball-bearing surfaces provide easy movement and long service.

A special self-aligning guide plate is attached to the fluoroscopic shutter mechanism which permits coupling of the tube to the shutter for fluoroscopic work. Locking of the tube to the shutter mechanism is automatic and self-centering. No locking screws or clamps are necessary. This coupling operation permits changing to the fluoroscopic set-up even in a dark room, and can be accomplished with the table in any position without disturbing the patient.

The 17" x 17" Bucky diaphragm is extremely sturdy in construction and incorporates a 50 line grid with a filter ratio of 6 to 1. An interlocking device automatically centers the tubestand on the Bucky diaphragm longitudinally, permitting the tubestand and Bucky to move in unison the entire length of the table.

A heavy duty tubestand with a manually operated lateral stereoscopic shift of 12 inches is mounted on two parallel rails close to the floor. Provisions are incorporated for leveling the floor rails both laterally and longitudinally by means of leveling screws. The tubestand is so constructed as to permit manipulation from over-the-table to under-the-table positions with a minimum of effort. The sturdy construction of the tubestand and floor rails makes possible the use of either the regular double focus oil immersed tube or the double focus oil immersed rotating anode tube, which can be furnished as optional equipment at additional cost.

A specially constructed heavy duty shockproof oil immersed X-ray tube is provided, together with shockproof cables of sufficient length to connect the tube with the transformer which is normally mounted beside the tubestand. Remote mounting of the transformer is possible by the use of longer cables.



The De Luxe "RF-100" occupies an overall space 6 ft. x 9 ft. 1 in., including standard length rails, table and control mechanism, permitting maximum cross-wise travel of tubehead. Minimum height required for tubestand 7 ft. 4 in.





## CONTROL FEATURES

## De Luxe Automatic Control

The FISCHER De Luxe "RF-100" control mechanism incorporates many exclusive features which make radiography a simple, precise science. There is no guesswork when using the De Luxe "RF-100" radiographic and fluoroscopic unit. It eliminates as far as humanly possible every electrical and mechanical compensating devices, constantly in operation, work to the end-result of saving time in handling patients, prolonging tube life and protecting the apparatus from failures due to faulty technic, thus assuring consistently high grade radiographs with resulting film economy.

### SPECIAL FEATURES

1. Automatic preselection of milliamperage.
2. Automatic changing of focal spots.
3. Automatic thermal induction regulator.
4. Compensated kilovolt meter (illuminated).
5. Double scale milliamperage meter (illuminated).
6. Automatic space charge compensator.
7. Line compensator.
8. Built-in spot change-over device.
9. When doing spot film radiography, both fluoroscopic and radiographic exposures are made with the foot switch. Focal spots are automatically changed to the proper focal spot for the work being done.
10. Fluoroscopic room light control.
11. Overload circuit breaker and main line switch.
12. Separate vernier control of milliamperage for fluoroscopy and therapy.
13. 100 steps of auto-transformer control in 2 KVP steps.
14. Accurate automatic reset timer.
15. Vertical panel gives eye-level view of meters.
16. Five plug receptacle connections are provided for plugging in the various essential accessories. All receptacles are labeled and are of different types, preventing the possibility of plugging into the wrong receptacle. Plug-in connections arranged to accommodate foot switch, spot tunnel, fluoroscopic room light control, Bucky trip cable and therapy timer.

## Standard Mobile Control on Film Cabinet

Permits convenient location of controls; increases convenience in operation. Provides storage cabinet for films and cassettes. Lead-lined storage bin with slip-proof lock, mounted on mobile base with ball-bearing casters measures 6" x 16" x 20" (inside).

### SPECIAL FEATURES

1. Automatic reset timer, calibrated in 1/20 second, maximum 14 seconds.
2. Milliamperage meter has double scale; kilovoltage meter, four scales.
3. Focal selector switch to determine focal spot. Pilot lights show when proper focal spot is in use.
4. Main (line) switch, which functions also as a circuit breaker.
5. Main and auxiliary controls for milliamperage.
6. Main and auxiliary controls for kilovoltage; provides 60 points of adjustment.
7. Pre-adjustment switch. Milliamperage pre-settings may be made without energizing the X-ray tube.
8. Timer push button switch.
9. Convenient handles for moving control mechanisms. Receptacles for foot switch and Bucky diaphragm connections are at sides of control mechanism. The position and angle of control panel make for maximum convenience in adjustment and readings. Markings are clear and will remain so permanently.

## CONSTRUCTION

## Features

## OPERATION

### DE LUXE CONTROL FEATURES

**EQUIPMENT PROTECTION.** The main line switch is of the circuit breaker type adjusted to protect the apparatus from short circuits and overloads.

**LINE COMPENSATOR.** The line compensator permits ready correction for changes in line voltage from day to day or hour to hour. This 10-step switch provides for a 20 volt variation in service line voltage. Adjusting the line compensator switch so that the line compensator meter reads on the red line assures the same definite input voltage at all times. This adjustment guarantees precise operation of the unit and constancy of results under variable service line conditions.

**AUTOMATIC PRESELECTION OF MILLIAMPERAGE.** The automatic milliamperage selector switch positively and accurately adjusts many electrical and mechanical factors which are normally manual operations. It provides five radiographic milliamperage selections: 5, 10, 25, 75 and 100 milliamperes. One very important function of the milliamperage selector switch is the automatic selection of the tube focal spot. This prevents accidental overloading of the fine focus. The FISCHER control never forgets to change focal spots. This automatic switching of focal spots is indicated by the red and green lights on the control panel.

**SPACE CHARGE COMPENSATOR.** The function of the space charge compensator is to maintain a constant milliamperage regardless of kilovolt settings. Normally, the milliamperes will change with change of kilovolts even though the filament current is maintained at a constant value. The action of the space charge compensator is entirely automatic and requires no attention on the part of the operator.

**THERMAL INDUCTION REGULATOR.** This is an exclusive FISCHER development. The thermal induction regulator compensates the filament circuit for changes in X-ray tube characteristics and resistors due to heating. Used in conjunction with a filament stabilizer (standard equipment), accurate milliamperage values are assured regardless of whether the tube is cold or hot. Milliamperage values are maintained within 5%.

**PRECISE KILOVOLTAGE CONTROL.** The De Luxe "RF-100" auto-transformer is a heavy duty type, with more than sufficient capacity to carry the heaviest rated load. Accurate preselection of kilovoltage is obtained throughout the entire voltage range at any milliamperage value. The major and minor auto-transformer switches provide 100 selections of kilovoltage at approximately 2 KVP per step. The major switch provides 10 steps of 10 kilovolts each—the minor switch provides 10 steps of 2 kilovolts each.

**FLUOROSCOPIC CONTROL.** Separate kilovoltage and milliamperage controls are provided for fluoroscopy and therapy. This is particularly advantageous when doing spot radiography. The fluoroscopic filament control is of the vernier type and permits accurate control of milliamperage over a range of 2 to 10 Ma., giving precise control for fluoroscopy or therapy.

**TIMER.** A motor driven timer with a timing range of 1/10 to 14 seconds is provided. Extremely accurate, it incorporates an automatic reset feature permitting stereoscopic films without resetting the timer. Switching arrangements are provided for automatically tripping the Bucky diaphragm and starting the radiographic exposure.

**ACCURATE KILOVOLT METER.** A single scale kilovolt meter is provided, instead of the usual multiple scale type, which eliminates the possibility of reading the wrong scale. The meter is compensated to allow for the inherent drop in the high tension transformer which increases as the milliamperage load increases. The kilovolt meter reads actual kilovolts at all times, regardless of the milliamperage selection, and the same radiographic densities will be obtained at all milliamperage values, provided the milliamperage second factor is constant.

**SPOT FILM CHANGE OVER DEVICE.** Ordinarily the spot film change over device is considered extra equipment and is provided at extra cost. In the De Luxe "RF-100" the spot change over device is a built-in feature and is provided as standard equipment. The spot tunnel is extra.

**FLUOROSCOPIC ROOM LIGHT CONTROL.** A room light control is another built-in feature of the De Luxe "RF-100." No special relays or costly foot switches are required; merely plug into the outlet provided in the control stand.

### MOBILE CONTROL FEATURES

Mobile Control on Film Cabinet available as alternate economical control mechanism (see preceding page).

### HIGH TENSION TRANSFORMER

Advanced design and sound engineering principles have been incorporated in the De Luxe "RF-100" high tension transformer. The De Luxe "RF-100" transformer, compact in size, is of the closed-core type. All electrical parts are immersed in oil of sufficient volume to assure efficient cooling. Entire transformer assembly is immersed in insulating oil and is contained in welded steel tank of heavy gauge steel.

### TRANSFORMER CAPACITY

Radiography	Fluoroscopy	Therapy
100 Ma. 96 KVP	5 Ma. 90 KVP	5 Ma. 96 KVP

All capacities shown above represent 85% of the maximum output of the apparatus, 15% being reserved as a safety overload factor.

### TABLE FEATURES

**TUBE CARRIAGE ARM.** A single tube carriage arm supports the X-ray tube and its movements through a supporting sleeve casting on ample ball bearing surfaces, which provides free and easy movement both horizontally and vertically. A trunion type mounting fork is used for securing the X-ray tube unit to the tube carriage arm. This provides a flexible type mounting, allowing the rotation of the X-ray tube 360° around the axis of the arm and 30° each way from the center of the fork mounting, so that any required angle may be secured with ease. Ample locks within easy reach are provided for securing tubestand in all positions, horizontally and vertically.

**SHOCKPROOF X-RAY TUBE.** A specially constructed heavy duty shockproof high tension X-ray tube is provided, together with shockproof cables of sufficient length to connect the tube with the transformer which is mounted beside the tube stand.

**SHOCKPROOF THROUGHOUT.** The De Luxe "RF-100" is rendered completely shockproof by means of an oil immersed shockproof double focus tube installed in a grounded metal tube housing. The tube housing is connected with the high tension transformer through high tension cables having a grounded metal sheath. Positive grounding of the entire unit is accomplished through a ground wire incorporated in the line cable.

**FLUOROSCOPIC SCREEN AND MOUNTING.** A Patterson Type "B-2" fluoroscopic screen, 12" x 16" is provided as regular equipment. The screen automatically centers on the tube in all positions and is supplied with a spring counterbalance for use in the horizontal position. Spring tension can be relieved when the table is used in the vertical position. Locks are provided for locking the screen and tube in any position crosswise or lengthwise of the table. A lock is also furnished for locking the screen rigidly at any desired height from the table top.

**BUCKY DIAPHRAGM.** The latest model (50 line grid with a ratio of 6 to 1) Bucky diaphragm, fully counterbalanced in all positions of the table, with a timing range of 1/2 to 30 seconds, is provided as standard equipment. A 1/10 to 30 seconds Bucky diaphragm can be supplied if desired. An interlocking device holds the Bucky and tubestand together so that they move at the same time. Simple movement disengages tubestand when the Bucky is not in use.

**FINISH.** The De Luxe Model "RF-100" is exceptionally attractive in hammered tone gray with polished chromium trim.

Cat. No.		Code
5100	FISCHER De Luxe Model RF 100 Milliamperage Shockproof X-ray Apparatus complete with De Luxe Upright Automatic Control and Timer, Fluoroscope Mounted Tilt Table and Bucky, including essential accessories listed below*	DREAM
5098	FISCHER De Luxe Model RF 100 Milliamperage Shockproof X-ray Apparatus complete with Standard Mobile Control on Film Cabinet, Fluoroscope Mounted Tilt Table and Bucky, including essential accessories listed below*	DROLL
*Essential Accessories (Filter 1 MM.; Foot Switch; Combination Seat and Shoulder Rest; Type B Compression Cone; Compression Device with Band)		
Operating Voltage: 210-245 Volts; 50-60 Cycles. Max. Current: 100 Amperes. . . . Power Rating: 25 KVA. Shipping Weight: Domestic 2850 lbs.; Foreign 3300 lbs.		